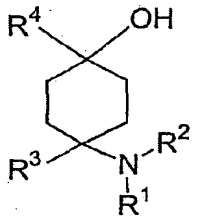
Amendments to the Claims:

The listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently Amended) A substituted 4-aminocyclohexanol compound corresponding to formula I,



I

wherein

R^1 and R^2 independently of one another represent H; saturated or unsaturated, branched or unbranched, singly or multiply substituted or unsubstituted C_{1-8}-alkyl or C_{3-8}-cycloalkyl; singly or multiply substituted or unsubstituted aryl or heteroaryl; or singly or multiply substituted or unsubstituted aryl bound via C_{1-3}-alkylene, C_{3-8}-cycloalkyl or heteroaryl; wherein R^1 and R^2 are not both H, or

the radicals R^1 and R^2 together form a ring and represent $CH_2CH_2OCH_2CH_2$, $CH_2CH_2NR^5CH_2CH_2$ or $(CH_2)_{3-6}$,

wherein

R^5 represents H; saturated or unsaturated, branched or unbranched, singly or multiply substituted or unsubstituted C_{1-8}-alkyl or C_{3-8}-cycloalkyl; singly or multiply substituted or unsubstituted aryl or heteroaryl; or singly or multiply substituted or unsubstituted aryl bound via C_{1-3}-alkylene, C_{3-8}-cycloalkyl or heteroaryl;

R^3 represents unsubstituted or singly or multiply substituted aryl or heteroaryl;

R^4 represents unsubstituted or singly or multiply substituted C_{3-8}-cycloalkyl, aryl or heteroaryl; $-CHR^6R^7$, $-CHR^6-CH_2R^7$, $-CHR^6-CH_2-CH_2R^7$, $-CHR^6-CH_2-CH_2-CH_2R^7$, $-C(Y)R^7$, $-C(Y)-CH_2R^7$, $-C(Y)-CH_2-CH_2R^7$ or $-C(Y)-CH_2-CH_2-CH_2R^7$; or $-R^8-L-R^9$

wherein

Y = O, S or H_2;

R^6 represents H, saturated or unsaturated, branched or unbranched, singly or multiply substituted or unsubstituted C_{1-7}-alkyl; or saturated or unsaturated, branched or unbranched, singly or multiply substituted or unsubstituted $C(O)O-C_{1-6}$-alkyl;

R^7 represents H; unsubstituted or singly or multiply substituted C_{3-8}-cycloalkyl, aryl or heteroaryl;

R^8 represents unsubstituted or singly or multiply substituted aryl or heteroaryl;

L represents -C(O)-NH-, -NH-C(O)-, -C(O)-O-, -O-C(O)-, -O-, -S- or $-S(O)_2-$; and

R^9 represents unsubstituted or singly or multiply substituted aryl or heteroaryl,

provided that,

if R^3 = substituted or unsubstituted phenyl, and R^4 = phenyl or $-CHR^6R^7$, $-CHR^6-CH_2R^7$, $-CHR^6-CH_2-CH_2R^7$, $-CHR^6-CH_2-CH_2-CH_2R^7$, $-C(Y)R^7$, $-C(Y)-CH_2R^7$, $-C(Y)-CH_2-CH_2R^7$ or $-C(Y)-CH_2-CH_2-CH_2R^7$

where $Y = H_2$,

R^6 = H, saturated or unsaturated, branched or unbranched, singly or multiply substituted or unsubstituted C_{1-5}-alkyl,

or

R^7 = H, substituted or unsubstituted C_{3-8}-cycloalkyl or phenyl, ~~and~~

R^1 and R^2 independently of one another are not both C_{1-5}-alkyl,

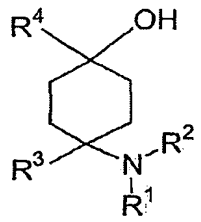
or

if R^3 = substituted or unsubstituted thiophenyl, and R^4 = $-CH_2-CH_2$-phenyl,

the radicals R^1 and R^2 do not together form a ring and represent $(CH_2)_5$,

or a salt thereof with a physiologically tolerated acid.

2. (Previously Presented) A substituted 4-aminocyclohexanol compound corresponding to formula I of claim 1,



I

wherein

the radicals R^1 and R^2 together form a ring and represent $CH_2CH_2OCH_2CH_2$, $CH_2CH_2NR^5CH_2CH_2$ or $(CH_2)_{3-6}$,

where R^5 represents H; saturated or unsaturated, branched or unbranched, singly or multiply substituted or unsubstituted C_{1-8}-alkyl or C_{3-8}-cycloalkyl; singly or multiply substituted or unsubstituted aryl or heteroaryl; or singly or multiply substituted or unsubstituted aryl bound via C_{1-3}-alkylene, C_{3-8}-cycloalkyl or heteroaryl;

R^3 represents unsubstituted or singly or multiply substituted aryl or heteroaryl;

R^4 represents unsubstituted or singly or multiply substituted C_{3-8}-cycloalkyl, aryl or heteroaryl; $-CHR^6R^7$, $-CHR^6-CH_2R^7$, $-CHR^6-CH_2-CH_2R^7$, $-CHR^6-CH_2-CH_2-CH_2R^7$, $-C(Y)R^7$, $-C(Y)-CH_2R^7$, $-C(Y)-CH_2-CH_2R^7$ or $-C(Y)-CH_2-CH_2-CH_2R^7$; or $-R^8-L-R^9$

wherein

Y = O, S or H_2;

R^6 represents H, saturated or unsaturated, branched or unbranched, singly or multiply substituted or unsubstituted C_{1-7}-alkyl; or saturated or unsaturated, branched or unbranched, singly or multiply substituted or unsubstituted C(O)O-C_{1-6}-alkyl;

R^7 represents H; unsubstituted or singly or multiply substituted C_{3-8}-cycloalkyl, aryl or heteroaryl;

R^8 represents unsubstituted or singly or multiply substituted aryl or heteroaryl;

L represents -C(O)-NH-, -NH-C(O)-, -C(O)-O-, -O-C(O)-, -O-, -S-or -$S(O)_2$-; and

R^9 represents unsubstituted or singly or multiply substituted aryl or heteroaryl,

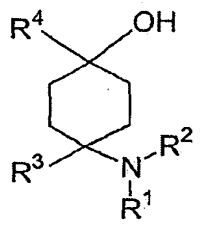
provided that,

if R^3 = substituted or unsubstituted thiophenyl, and R^4 = -CH_2-CH_2-phenyl,

the radicals R^1 and R^2 do not together form a ring and represent $(CH_2)_5$,

or a salt thereof with a physiologically tolerated acid.

3. (Previously Presented) A substituted 4-aminocyclohexanol compound corresponding to formula I of claim 1,



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wherein

R^1 and R^2 independently of one another represent H; saturated or unsaturated, branched or unbranched, singly or multiply substituted or unsubstituted C_{1-8}-alkyl or C_{3-8}-cycloalkyl; singly or multiply substituted or unsubstituted aryl or heteroaryl; or singly or multiply substituted or unsubstituted aryl bound via C_{1-3}-alkylene, C_{3-8}-cycloalkyl or heteroaryl; wherein R^1 and R^2 are not both H,

R^3 represents unsubstituted or singly or multiply substituted aryl or heteroaryl;

R^4 represents unsubstituted or singly or multiply substituted C_{3-8}-cycloalkyl, aryl or heteroaryl; $-CHR^6R^7$, $-CHR^6-CH_2R^7$, $-CHR^6-CH_2-CH_2R^7$, $-CHR^6-CH_2-CH_2-CH_2R^7$, $-C(Y)R^7$, $-C(Y)-CH_2R^7$, $-C(Y)-CH_2-CH_2R^7$ or $-C(Y)-CH_2-CH_2-CH_2R^7$; or $-R^8-L-R^9$

wherein

Y = O, S or H_2;

R^6 represents H, saturated or unsaturated, branched or unbranched, singly or multiply substituted or unsubstituted C_{1-7}-alkyl; or saturated or unsaturated, branched or unbranched, singly or multiply substituted or unsubstituted $C(O)O-C_{1-6}$-alkyl;

R^7 represents H; unsubstituted or singly or multiply substituted C_{3-8}-cycloalkyl, aryl or heteroaryl;

R^8 represents unsubstituted or singly or multiply substituted aryl or heteroaryl;

L represents -C(O)-NH-, -NH-C(O)-, -C(O)-O-, -O-C(O)-, -O-, -S-or -$S(O)_2$-; and

R^9 represents unsubstituted or singly or multiply substituted aryl or heteroaryl,

provided that,

if R^3 = substituted or unsubstituted phenyl, and R^4 = phenyl or -CHR^6R^7, -CHR^6-CH_2R^7, -CHR^6-CH_2-CH_2R^7, -CHR^6-CH_2-CH_2-CH_2R^7, -C(Y)R^7, -C(Y)-CH_2R^7, -C(Y)-CH_2-CH_2R^7 or -C(Y)-CH_2-CH_2-CH_2R^7,

where Y = H_2

R^6 = H, saturated or unsaturated, branched or unbranched, singly or multiply substituted or unsubstituted C_{1-5}-alkyl,

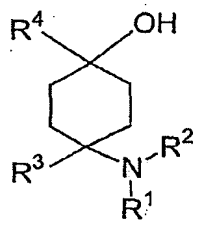
or

R^7 = H, substituted or unsubstituted C_{3-8}-cycloalkyl or phenyl, and

R^1 and R^2 independently of one another are not both C_{1-5}-alkyl,

or a salt thereof with a physiologically tolerated acid.

4. (Previously Presented) A substituted 4-aminocyclohexanol corresponding to formula I of claim 1,



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wherein

R^1 and R^2 independently of one another represent H; saturated or unsaturated,

branched or unbranched, singly or multiply substituted or unsubstituted C_{1-8}-alkyl or C_{3-8}-cycloalkyl; singly or multiply substituted or unsubstituted aryl or heteroaryl; or singly or multiply substituted or unsubstituted aryl bound via C_{1-3}-alkylene, C_{3-8}-cycloalkyl or heteroaryl; wherein R^1 and R^2 are not both H,

or the radicals R^1 and R^2 together form a ring and represent $CH_2CH_2OCH_2CH_2$, $CH_2CH_2NR^5CH_2CH_2$ or $(CH_2)_{3-6}$,

wherein R^5 represents H; saturated or unsaturated, branched or unbranched, singly or multiply substituted or unsubstituted C_{1-8}-alkyl or C_{3-8}-cycloalkyl; singly or multiply substituted or unsubstituted aryl or heteroaryl; or singly or multiply substituted or unsubstituted aryl bound via C_{1-3}-alkylene, C_{3-8}-cycloalkyl or heteroaryl;

R^3 represents unsubstituted or singly or multiply substituted heteroaryl;

R^4 represents unsubstituted or singly or multiply substituted C_{3-8}-cycloalkyl, aryl or heteroaryl; $-CHR^6R^7$, $-CHR^6-CH_2R^7$, $-CHR^6-CH_2-CH_2R^7$, $-CHR^6-CH_2-CH_2-CH_2R^7$, $-C(Y)R^7$, $-C(Y)-CH_2R^7$, $-C(Y)-CH_2-CH_2R^7$ or $-C(Y)-CH_2-CH_2-CH_2R^7$; or $-R^8-L-R^9$

wherein

Y = O, S or H_2;

R^6 represents H, saturated or unsaturated, branched or unbranched, singly or multiply substituted or unsubstituted C_{1-7}-alkyl; or saturated or unsaturated, branched or unbranched, singly or multiply substituted or unsubstituted $C(O)O-C_{1-6}$-alkyl;

R^7 represents H; unsubstituted or singly or multiply substituted C_{3-8}-cycloalkyl, aryl or heteroaryl;

R^8 represents unsubstituted or singly or multiply substituted aryl or heteroaryl;

L represents -C(O)-NH-, -NH-C(O)-, -C(O)-O-, -O-C(O)-, -O-, -S-or $-S(O)_2-$; and

R^9 represents unsubstituted or singly or multiply substituted aryl or heteroaryl;

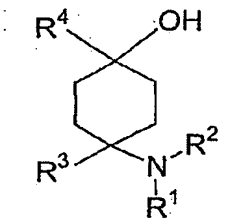
provided that,

if R^3 = substituted or unsubstituted thiophenyl, and R^4 = -CH_2-CH_2-phenyl,

the radicals R^1 and R^2 do not together form a ring and represent $(CH_2)_5$,

or a salt thereof with a physiologically tolerated acid.

5. (Previously Presented) A substituted 4-aminocyclohexanol compound corresponding to formula I of claim 1,



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wherein

R^1 and R^2 independently of one another represent H; saturated or unsaturated, branched or unbranched, singly or multiply substituted or unsubstituted C_{1-8}-alkyl or C_{3-8}-cycloalkyl; singly or multiply substituted or unsubstituted aryl or heteroaryl; or singly or multiply substituted or unsubstituted aryl bound via C_{1-3}-alkylene, C_{3-8}-cycloalkyl or heteroaryl; wherein R^1 and R^2 are not both H,

or the radicals R^1 and R^2 together form a ring and represent $CH_2CH_2OCH_2CH_2$, $CH_2CH_2NR^5CH_2CH_2$ or $(CH_2)_{3-6}$,

wherein R^5 represents H; saturated or unsaturated, branched or unbranched, singly or multiply substituted or unsubstituted C_{1-8}-alkyl or C_{3-8}-cycloalkyl; singly or multiply substituted or unsubstituted aryl or heteroaryl; or singly or multiply substituted or unsubstituted aryl bound

via C_{1-3}-alkylene, C_{3-8}-cycloalkyl or heteroaryl;

R^3 represents unsubstituted or singly or multiply substituted aryl;

R^4 represents unsubstituted or singly or multiply substituted C_{3-8}-cycloalkyl, aryl or heteroaryl; $-CHR^6R^7$, $-CHR^6-CH_2R^7$, $-CHR^6-CH_2-CH_2R^7$, $-CHR^6-CH_2-CH_2-CH_2R^7$, $-C(Y)R^7$, $-C(Y)-CH_2R^7$, $-C(Y)-CH_2-CH_2R^7$ or $-C(Y)-CH_2-CH_2-CH_2R^7$; or $-R^8-L-R^9$

wherein

Y = O, S or H_2;

R^6 represents H, saturated or unsaturated, branched or unbranched, singly or multiply substituted or unsubstituted C_{1-7}-alkyl; or saturated or unsaturated, branched or unbranched, singly or multiply substituted or unsubstituted $C(O)O-C_{1-6}$-alkyl;

R^7 represents H; unsubstituted or singly or multiply substituted C_{3-8}-cycloalkyl, aryl or heteroaryl;

R^8 represents unsubstituted or singly or multiply substituted aryl or heteroaryl;

L represents -C(O)-NH-, -NH-C(O)-, -C(O)-O-, -O-C(O)-, -O-, -S-or $-S(O)_2-$; and

R^9 represents unsubstituted or singly or multiply substituted aryl or heteroaryl,

provided that,

if R^3 = substituted or unsubstituted phenyl, and R^4 = phenyl or $-CHR^6R^7$, $-CHR^6-CH_2R^7$, $-CHR^6-CH_2-CH_2R^7$, $-CHR^6-CH_2-CH_2-CH_2R^7$, $-C(Y)R^7$, $-C(Y)-CH_2R^7$, $-C(Y)-CH_2-CH_2R^7$ or $-C(Y)-CH_2-CH_2-CH_2R^7$

where $Y = H_2$

R^6 = H, saturated or unsaturated, branched or unbranched, singly or multiply substituted or unsubstituted C_{1-5}-alkyl;

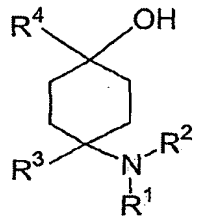
or

R^7 = H, substituted or unsubstituted C_{3-8}-cycloalkyl or phenyl, and

R^1 and R^2 independently of one another are not both C_{1-5}-alkyl,

or a salt thereof with a physiologically tolerated acid.

6. (Previously Presented) A substituted 4-aminocyclohexanol compound corresponding to formula I of claim 1,



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wherein

the radicals R^1 and R^2 together form a ring and represent $CH_2CH_2OCH_2CH_2$, $CH_2CH_2NR^5CH_2CH_2$ or $(CH_2)_{3-6}$,

wherein R^5 represents H; saturated or unsaturated, branched or unbranched, singly or multiply substituted or unsubstituted C_{1-8}-alkyl or C_{3-8}-cycloalkyl; singly or multiply substituted or unsubstituted aryl or heteroaryl; or singly or multiply substituted or unsubstituted aryl bound via C_{1-3}-alkylene, C_{3-8}-cycloalkyl or heteroaryl;

R^3 represents unsubstituted or singly or multiply substituted aryl;

R^4 represents unsubstituted or singly or multiply substituted C_{3-8}-cycloalkyl, aryl or heteroaryl; $-CHR^6R^7$, $-CHR^6-CH_2R^7$, $-CHR^6-CH_2-CH_2R^7$, $-CHR^6-CH_2-CH_2-CH_2R^7$, $-C(Y)R^7$, $-C(Y)-CH_2R^7$, $-C(Y)-CH_2-CH_2R^7$ or $-C(Y)-CH_2-CH_2-CH_2R^7$; or $-R^8-L-R^9$

wherein

Y = O, S or H_2;

R^6 represents H, saturated or unsaturated, branched or unbranched, singly or multiply substituted or unsubstituted C_{1-7}-alkyl; or saturated or unsaturated, branched or unbranched, singly or multiply substituted or unsubstituted C(O)O-C_{1-6}-alkyl;

R^7 represents H; unsubstituted or singly or multiply substituted C_{3-8}-cycloalkyl, aryl or heteroaryl;

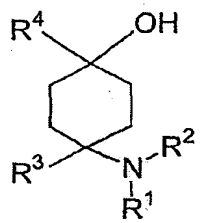
R^8 represents unsubstituted or singly or multiply substituted aryl or heteroaryl;

L represents -C(O)-NH-, -NH-C(O)-, -C(O)-O-, -O-C(O)-, -O-, -S-or -$S(O)_2$-; and

R^9 unsubstituted or singly or multiply substituted aryl or heteroaryl,

or a salt thereof with a physiologically tolerated acid.

7. (Previously Presented) A substituted 4-aminocyclohexanol compound corresponding to formula I of claim 1,



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wherein

R^1 and R^2 independently of one another represent H; saturated or unsaturated, branched or unbranched, singly or multiply substituted or unsubstituted C_{1-8}-alkyl or C_{3-8}-cycloalkyl; singly or multiply substituted or unsubstituted aryl or heteroaryl; or singly or multiply substituted or unsubstituted aryl bound via C_{1-3}-

alkylene, C_{3-8}-cycloalkyl or heteroaryl; wherein R^1 and R^2 are not both H,

R^3 represents unsubstituted or singly or multiply substituted heteroaryl;

R^4 represents unsubstituted or singly or multiply substituted C_{3-8}-cycloalkyl, aryl or heteroaryl; $-CHR^6R^7$, $-CHR^6-CH_2R^7$, $-CHR^6-CH_2-CH_2R^7$, $-CHR^6-CH_2-CH_2-CH_2R^7$, $-C(Y)R^7$, $-C(Y)-CH_2R^7$, $-C(Y)-CH_2-CH_2R^7$ or $-C(Y)-CH_2-CH_2-CH_2R^7$; or $-R^8-L-R^9$

wherein

Y = O, S or H_2;

R^6 represents H, saturated or unsaturated, branched or unbranched, singly or multiply substituted or unsubstituted C_{1-7}-alkyl; or saturated or unsaturated, branched or unbranched, singly or multiply substituted or unsubstituted $C(O)O-C_{1-6}$-alkyl;

R^7 represents H; unsubstituted or singly or multiply substituted C_{3-8}-cycloalkyl, aryl or heteroaryl;

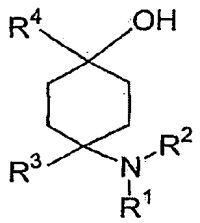
R^8 represents unsubstituted or singly or multiply substituted aryl or heteroaryl;

L represents -C(O)-NH-, -NH-C(O)-, -C(O)-O-, -O-C(O)-, -O-, -S-or $-S(O)_2$-; and

R^9 represents unsubstituted or singly or multiply substituted aryl or heteroaryl,

or a salt thereof with a physiologically tolerated acid.

8. (Previously Presented) A substituted 4-aminocyclohexanol compound corresponding to formula I of claim 1,



I

wherein

R^1 and R^2 independently of one another represent H; saturated or unsaturated, branched or unbranched, singly or multiply substituted or unsubstituted C_{1-8}-alkyl or C_{3-8}-cycloalkyl; singly or multiply substituted or unsubstituted aryl or heteroaryl; or singly or multiply substituted or unsubstituted aryl bound via C_{1-3}-alkylene, C_{3-8}-cycloalkyl or heteroaryl; wherein R^1 and R^2 are not both H,

or the radicals R^1 and R^2 together form a ring and represent $CH_2CH_2OCH_2CH_2$, $CH_2CH_2NR^5CH_2CH_2$ or $(CH_2)_{3-6}$,

wherein R^5 represents H; saturated or unsaturated, branched or unbranched, singly or multiply substituted or unsubstituted C_{1-8}-alkyl or C_{3-8}-cycloalkyl; singly or multiply substituted or unsubstituted aryl or heteroaryl; or singly or multiply substituted or unsubstituted aryl bound via C_{1-3}-alkylene, C_{3-8}-cycloalkyl or heteroaryl;

R^3 represents unsubstituted or singly or multiply substituted aryl or heteroaryl;

R^4 represents unsubstituted or singly or multiply substituted C_{3-8}-cycloalkyl, aryl or heteroaryl; $-CHR^6R^7$, $-CHR^6-CH_2R^7$, $-CHR^6-CH_2-CH_2R^7$, $-CHR^6-CH_2-CH_2-CH_2R^7$, $-C(Y)R^7$, $-C(Y)-CH_2R^7$, $-C(Y)-CH_2-CH_2R^7$ or $-C(Y)-CH_2-CH_2-CH_2R^7$; or $-R^8-L-R^9$

wherein

$Y = H_2$,

R^6 represents H, saturated or unsaturated, branched or unbranched, singly or multiply substituted or unsubstituted C_{1-7}-alkyl

R^7 represents unsubstituted or singly or multiply substituted heteroaryl,

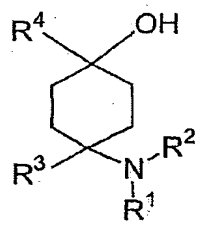
R^8 represents unsubstituted or singly or multiply substituted aryl or heteroaryl,

L represents -C(O)-NH-, -NH-C(O)-, -C(O)-O-, -O-C(O)-, -O-, -S-or $-S(O)_2-$; and

R^9 represents unsubstituted or singly or multiply substituted aryl or heteroaryl,

or a salt thereof with a physiologically tolerated acid.

9. (Previously Presented) A substituted 4-aminocyclohexanol compound corresponding to formula I of claim 1,



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wherein

R^1 and R^2 independently of one another represent H; saturated or unsaturated, branched or unbranched, singly or multiply substituted or unsubstituted C_{1-8}-alkyl or C_{3-8}-cycloalkyl; singly or multiply substituted or unsubstituted aryl or heteroaryl; or singly or multiply substituted or unsubstituted aryl bound via C_{1-3}-alkylene, C_{3-8}-cycloalkyl or heteroaryl; wherein R^1 and R^2 are not both H,

or the radicals R^1 and R^2 together form a ring and represent $CH_2CH_2OCH_2CH_2$, $CH_2CH_2NR^5CH_2CH_2$ or $(CH_2)_{3-6}$;

wherein R^5 represents H; saturated or unsaturated, branched or unbranched, singly or multiply substituted or unsubstituted C_{1-8}-alkyl or

C_{3-8}-cycloalkyl; singly or multiply substituted or unsubstituted aryl or heteroaryl; or singly or multiply substituted or unsubstituted aryl bound via C_{1-3}-alkylene, C_{3-8}-cycloalkyl or heteroaryl;

R^3 represents unsubstituted or singly or multiply substituted aryl or heteroaryl;

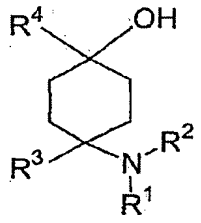
R^4 represents $-CHR^6R^7$, $-CHR^6-CH_2R^7$, $-CHR^6-CH_2-CH_2R^7$ or $-CHR^6-CH_2-CH_2-CH_2R^7$;

R^6 represents saturated or unsaturated, branched or unbranched, singly or multiply substituted or unsubstituted $C(O)O-C_{1-6}$-alkyl; and

R^7 represents H; respectively unsubstituted or singly or multiply substituted C_{3-8}-cycloalkyl, aryl or heteroaryl,

or a salt thereof with a physiologically tolerated acid.

10. (Previously Presented) A substituted 4-aminocyclohexanol compound corresponding to formula I of claim 1,



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wherein

R^1 and R^2 independently of one another represent H; saturated or unsaturated, branched or unbranched, singly or multiply substituted or unsubstituted C_{1-8}-alkyl or C_{3-8}-cycloalkyl; singly or multiply substituted or unsubstituted aryl or heteroaryl; or singly or multiply substituted or unsubstituted aryl bound via C_{1-3}-alkylene, C_{3-8}-cycloalkyl or heteroaryl; wherein R^1 and R^2 are not both H,

or the radicals R^1 and R^2 together form a ring and represent $CH_2CH_2OCH_2CH_2$,

$CH_2CH_2NR^5CH_2CH_2$ or $(CH_2)_{3-6}$,

wherein R^5 represents H; saturated or unsaturated, branched or unbranched, singly or multiply substituted or unsubstituted C_{1-8}-alkyl or C_{3-8}-cycloalkyl; singly or multiply substituted or unsubstituted aryl or heteroaryl; or singly or multiply substituted or unsubstituted aryl bound via C_{1-3}-alkylene, C_{3-8}-cycloalkyl or heteroaryl;

R^3 represents unsubstituted or singly or multiply substituted aryl or heteroaryl;

R^4 represents $-C(Y)R^7$, $-C(Y)-CH_2R^7$, $-C(Y)-CH_2-CH_2R^7$ or $-C(Y)-CH_2-CH_2-CH_2R^7$;

wherein

Y = O or S; and

R^7 represents H; unsubstituted or singly or multiply substituted C_{3-8}-cycloalkyl, aryl or heteroaryl,

or a salt thereof with a physiologically tolerated acid.

11. (Original) A substituted 4-aminocyclohexanol compound according to claim 1 wherein:

R^1 and R^2 independently of one another represent H; saturated or unsaturated, branched or unbranched, singly or multiply substituted or unsubstituted C_{1-8}-alkyl; wherein R^1 and R^2 are not both H,

or the radicals R^1 and R^2 together form a ring and represent $CH_2CH_2OCH_2CH_2$, $CH_2CH_2NR^5CH_2CH_2$ or $(CH_2)_{3-6}$,

where R^5 represents H; saturated or unsaturated, branched or unbranched, singly or multiply substituted or unsubstituted C_{1-8}-alkyl.

12. – 124. (Cancelled)

125. (Previously Presented) A substituted 4-aminocyclohexanol compound according to claim 3, wherein

R^1 and R^2 independently of one another represent H; saturated or unsaturated, branched or unbranched, singly or multiply substituted or unsubstituted C_{1-8}-alkyl; wherein R^1 and R^2 are not both H.

126. (Previously Presented) A substituted 4-aminocyclohexanol compound according to claim 7, wherein

R^1 and R^2 independently of one another represent H; saturated or unsaturated, branched or unbranched, singly or multiply substituted or unsubstituted C_{1-8}-alkyl; wherein R^1 and R^2 are not both H.

127. (Previously Presented) A substituted 4-aminocyclohexanol compound according to claim 2, wherein

R^1 and R^2 together form a ring and represent $CH_2CH_2OCH_2CH_2$, $CH_2CH_2NR^5CH_2CH_2$ or $(CH_2)_{3-6}$,

wherein R^5 represents H; saturated or unsaturated, branched or unbranched, singly or multiply substituted or unsubstituted C_{1-8}-alkyl.

128. (Previously Presented)A substituted 4-aminocyclohexanol compound according to claim 6, wherein

R^1 and R^2 together form a ring and represent $CH_2CH_2OCH_2CH_2$, $CH_2CH_2NR^5CH_2CH_2$ or $(CH_2)_{3-6}$,

wherein R^5 represents H; saturated or unsaturated, branched or unbranched, singly or multiply substituted or unsubstituted C_{1-8}-alkyl.

129. (Previously Presented) A substituted 4-aminocyclohexanol compound according to claim 1, wherein

R^3 represents unsubstituted or singly or multiply substituted phenyl, naphthyl, anthracenyl, thiophenyl, benzothiophenyl, pyridyl, furyl, benzofuranyl, benzodioxolanyl, indolyl, indanyl, benzodioxanyl, pyrrolyl, pyrimidyl or pyrazinyl.

130. (Previously Presented) A substituted 4-aminocyclohexanol compound according to claim 4, wherein

R^3 represents unsubstituted or singly or multiply substituted thiophenyl, benzothiophenyl, pyridyl, furyl, benzofuranyl, benzodioxolanyl, indolyl, indanyl, benzodioxanyl, pyrrolyl, pyrimidyl or pyrazinyl.

131. (Previously Presented) A substituted 4-aminocyclohexanol compound according to claim 7, wherein

R^3 represents unsubstituted or singly or multiply substituted thiophenyl, benzothiophenyl, pyridyl, furyl, benzofuranyl, benzodioxolanyl, indolyl, indanyl, benzodioxanyl, pyrrolyl, pyrimidyl or pyrazinyl.

132. (Previously Presented) A substituted 4-aminocyclohexanol compound according to claim 5, wherein R^3 represents phenyl, naphthyl or anthracenyl.

133. (Previously Presented) A substituted 4-aminocyclohexanol compound according to claim 6, wherein R^3 represents phenyl, naphthyl or anthracenyl.

134. (Previously Presented) A substituted 4-aminocyclohexanol compound according to claim 1, wherein

R^4 represents unsubstituted or singly or multiply substituted C_{3-8}-cycloalkyl, aryl or heteroaryl; or $-R^8$-L-R^9.

135. (Previously Presented) A substituted 4-aminocyclohexanol compound according to claim 134, wherein

R^8 represents unsubstituted or singly or multiply substituted indolyl, naphthyl, benzofuranyl, benzothiophenyl, indanyl, benzodioxanyl, benzodioxolanyl, acenaphthyl, carbazolyl, phenyl, thiophenyl, furyl, pyridyl, pyrrolyl, pyrazinyl or pyrimidyl, fluorenyl, fluoranthenyl, benzothiazolyl, benzotriazolyl or benzo[1,2,5]thiazolyl or 1,2-dihydroacenaphthenyl, pyridinyl, furanyl, benzofuranyl, pyrazolinonyl, oxopyrazolinonyl, pyrimidinyl, quinolinyl, isoquinolinyl, phthalazinyl or quinazolinyl;

L represents -C(O)-NH-, -NH-C(O)-, -C(O)-O-, -O-C(O)-, -O-, -S-or -$S(O)_2$-;

or R^9 represents unsubstituted or singly or multiply substituted indolyl, naphthyl, benzofuranyl, benzothiophenyl, indanyl, benzodioxanyl, benzodioxolanyl, acenaphthyl, carbazolyl, phenyl, thiophenyl, furyl, pyridyl, pyrrolyl, pyrazinyl or pyrimidyl, fluorenyl, fluoranthenyl, benzothiazolyl, benzotriazolyl or benzo[1,2,5]thiazolyl or 1,2-dihydroacenaphthenyl, pyridinyl, furanyl, benzofuranyl, pyrazolinonyl, oxopyrazolinonyl, pyrimidinyl, quinolinyl, isoquinolinyl, phthalazinyl or quinazolinyl.

136. (Previously Presented) A substituted 4-aminocyclohexanol compound according to claim 1, wherein

R^4 represents -CHR^6R^7, -CHR^6-CH_2R^7, -CHR^6-CH_2-CH_2R^7, -CHR^6-CH_2-CH_2-CH_2R^7, -C(Y)R^7, -C(Y)-CH_2R^7, -C(Y)-CH_2-CH_2R^7 or -C(Y)-CH_2-CH_2-CH_2R^7.

137. (Previously Presented) A substituted 4-aminocyclohexanol compound according to claim 136, wherein

R^6 represents H; saturated or unsaturated, branched or unbranched, singly or multiply substituted or unsubstituted C_{1-4}-alkyl; or saturated or unsaturated, branched or unbranched, singly or multiply substituted or unsubstituted C(O)O-C_{1-4}-alkyl.

138. (Previously Presented) A substituted 4-aminocyclohexanol compound according to claim 136, wherein

R^7 represents unsubstituted or singly or multiply substituted C_{3-8}-cycloalkyl, aryl or heteroaryl.

139. (Previously Presented) A substituted 4-aminocyclohexanol compound according to claim 8, wherein

R^4 represents unsubstituted or singly or multiply substituted heteroaryl; or -CHR^6R^7, -CHR^6-CH_2R^7, -CHR^6-CH_2-CH_2R^7, -CHR^6-CH_2-CH_2-CH_2R^7, -C(Y)R^7, -C(Y)-CH_2R^7, -C(Y)-CH_2-CH_2R^7 or -C(Y)-CH_2-CH_2-CH_2R^7; or -R^8-L-R^9

where Y = H_2.

140. (Previously Presented) A substituted 4-aminocyclohexanol compound according to claim 139, wherein

R^6 represents H, saturated or unsaturated, branched or unbranched, singly or multiply substituted or unsubstituted C_{1-4}-alkyl;

or

R^7 represents unsubstituted or singly or multiply substituted indolyl, benzofuranyl, benzothiophenyl, indanyl, benzodioxanyl, benzodioxolanyl, acenaphthyl, carbazolyl, thiophenyl, furyl, pyridyl, pyrrolyl, pyrazinyl or pyrimidyl, fluorenyl, fluoranthenyl, benzothiazolyl, benzotriazolyl or benzo[1,2,5]thiazolyl or 1,2-dihydroacenaphthenyl, pyridinyl, furanyl,

benzofuranyl, pyrazolinonyl, oxopyrazolinonyl, pyrimidinyl, quinolinyl, isoquinolinyl, phthalazinyl or quinazolinyl.

141. (Previously Presented) A substituted 4-aminocyclohexanol compound according to claim 139, wherein

R^8 represents unsubstituted or singly or multiply substituted indolyl, naphthyl, benzofuranyl, benzothiophenyl, indanyl, benzodioxanyl, benzodioxolanyl, acenaphthyl, carbazolyl, phenyl, thiophenyl, furyl, pyridyl, pyrrolyl, pyrazinyl or pyrimidyl, fluorenyl, fluoranthenyl, benzothiazolyl, benzotriazolyl or benzo[1,2,5]thiazolyl or 1,2-dihydroacenaphthenyl, pyridinyl, furanyl, benzofuranyl, pyrazolinonyl, oxopyrazolinonyl, pyrimidinyl, quinolinyl, isoquinolinyl, phthalazinyl or quinazolinyl;

or R^9 represents unsubstituted or singly or multiply substituted indolyl, naphthyl, benzofuranyl, benzothiophenyl, indanyl, benzodioxanyl, benzodioxolanyl, acenaphthyl, carbazolyl, phenyl, thiophenyl, furyl, pyridyl, pyrrolyl, pyrazinyl or pyrimidyl, fluorenyl, fluoranthenyl, benzothiazolyl, benzotriazolyl or benzo[1,2,5]thiazolyl or 1,2-dihydroacenaphthenyl, pyridinyl, furanyl, benzofuranyl, pyrazolinonyl, oxopyrazolinonyl, pyrimidinyl, quinolinyl, isoquinolinyl, phthalazinyl or quinazolinyl.

142. (Previously Presented) A substituted 4-aminocyclohexanol compound according to claim 9, wherein

R^4 represents $-CHR^6R^7$, $-CHR^6-CH_2R^7$ or $-CHR^6-CH_2-CH_2R^7$.

143. (Previously Presented) A substituted 4-aminocyclohexanol compound according to claim 142, wherein

R^6 represents saturated or unsaturated, branched or unbranched, singly or multiply substituted or unsubstituted $C(O)O-C_{1-4}$-alkyl.

or

R^7 represents unsubstituted or singly or multiply substituted C_{3-8}-cycloalkyl, aryl or heteroaryl.

144. (Previously Presented) A substituted 4-aminocyclohexanol compound according to claim 10, wherein

R^4 represents $-C(Y)R^7$, $-C(Y)-CH_2R^7$, $-C(Y)CH_2-CH_2R^7$ or $-C(Y)-CH_2-CH_2-CH_2R^7$

where Y = O.

145. (Previously Presented) A substituted 4-aminocyclohexanol compound according to claim 144, wherein

R^7 represents unsubstituted or singly or multiply substituted C_{3-8}-cycloalkyl, aryl or heteroaryl.

146. (Previously Presented) A substituted 4-aminocyclohexanol compound according to claim 1, wherein said compound is selected from the group consisting of:

- 4-dimethylamino-1-(1-methyl-1H-indol-2-yl)-4-phenylcyclohexanol
- 1-benzo[b]thiophen-2-yl-4-dimethylamino-4-phenylcyclohexanol
- 1-benzo[b]thiophen-3-yl-4-dimethylamino-4-phenylcyclohexanol
- 1-(1-benzenesulphonyl-1H-indol-2-yl)-4-dimethylamino-4-phenylcyclohexanol
- 1-benzofuran-2-yl-4-dimethylamino-4-phenylcyclohexanol; and
- 1-benzothiazol-2-yl-4-dimethylamino-4-phenylcyclohexanol, or

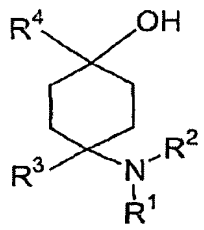
a salt thereof with a physiologically tolerated acid.

147. (Previously Presented) A pharmaceutical composition containing at least one substituted 4-aminocyclohexanol compound according to claim 1.

148. (Previously Presented) A pharmaceutical composition according to claim 147, wherein the pharmaceutical composition comprises an opioid or an anesthetic.

149. (Previously Presented) A method of alleviating pain or treating a locomotive disorder or administering an anticonvulsant or muscle relaxant, said method comprising the step of administering to a mammal in need thereof an effective amount of a compound according to claim 1.

150. (Previously Presented) A method of treating phobias, stress and syndromes associated with stress, depression, epilepsy, Alzheimer's disease, senile dementia, general cognitive dysfunction, learning difficulties and memory loss, withdrawal symptoms, alcohol abuse or dependency, drug abuse or dependency, sexual dysfunction, cardiovascular diseases, hypotension, hypertension, tinnitus, pruritus, defective hearing, defective bowel motility, impaired assimilation of food, anorexia, obesity, diarrhoea, cachexia, urinary incontinence or for providing an antitussive or anaesthetic or for co-administration during treatment with an opioid analgesic or with an anaesthetic, for diuresis, antinatriuresis or anxiolysis in a mammal, said method comprising administering to said mammal an effective amount of a substituted 4-aminocyclohexanol compound corresponding to formula I,



I

wherein

R^1 and R^2 independently of one another represent H; saturated or unsaturated, branched or unbranched, singly or multiply substituted or unsubstituted C_{1-8}-alkyl or C_{3-8}-cycloalkyl; singly or multiply substituted or unsubstituted aryl or heteroaryl; or singly or multiply substituted or unsubstituted aryl bound via C_{1-3}-alkylene, C_{3-8}-cycloalkyl or heteroaryl; wherein R^1 and R^2 are not both H,

or the radicals R^1 and R^2 together form a ring and represent $CH_2CH_2OCH_2CH_2$, $CH_2CH_2NR^5CH_2CH_2$ or $(CH_2)_{3-6}$;

wherein R^5 represents H; saturated or unsaturated, branched or unbranched, singly or multiply substituted or unsubstituted C_{1-8}-alkyl or C_{3-8}-cycloalkyl; singly or multiply substituted or unsubstituted aryl or heteroaryl; or singly or multiply substituted or unsubstituted alkylene aryl bound via C_{1-3}, C_{3-8}-cycloalkyl or heteroaryl;

R^3 represents unsubstituted or singly or multiply substituted aryl or heteroaryl;

R^4 represents unsubstituted or singly or multiply substituted C_{3-8}-cycloalkyl, aryl or heteroaryl; $-CHR^6R^7$, $-CHR^6-CH_2R^7$, $-CHR^6-CH_2-CH_2R^7$, $-CHR^6-CH_2-CH_2-CH_2R^7$, $-C(Y)R^7$, $-C(Y)-CH_2R^7$, $-C(Y)-CH_2-CH_2R^7$ or $-C(Y)-CH_2-CH_2-CH_2R^7$; or $-R^8-L-R^9$

wherein

Y = O, S or H_2;

R^6 represents H, saturated or unsaturated, branched or unbranched, singly or multiply substituted or unsubstituted C_{1-7}-alkyl; or saturated or unsaturated, branched or unbranched, singly or multiply substituted or unsubstituted $C(O)O-C_{1-6}$-alkyl;

R^7 represents H; respectively unsubstituted or singly or multiply substituted C_{3-8}-cycloalkyl, aryl or heteroaryl;

R^8 represents respectively unsubstituted or singly or multiply substituted aryl or heteroaryl;

L represents -C(O)-NH-, -NH-C(O)-, -C(O)-O-, -O-C(O)-, -O-, -S- or $-S(O)_2-$; and

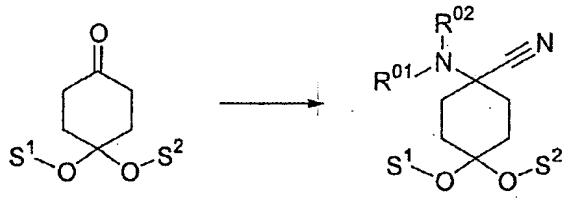
R^9 represents unsubstituted or singly or multiply substituted aryl or heteroaryl,

or a salt thereof with a physiologically tolerated acid.

151. (Previously Presented) A method of producing a substituted 4-aminocyclohexanol compound corresponding to formula I of claim 1

comprising the steps of:

a. reacting a cyclohexane-1,4-dione protected by the groups S^1 and S^2 according to formula II in the presence of a compound corresponding to formula $HNR^{01}R^{02}$ with a cyanide, to form a protected N-substituted 1-amino-4-oxo-cyclohexanecarbonitrile compound corresponding to formula III;

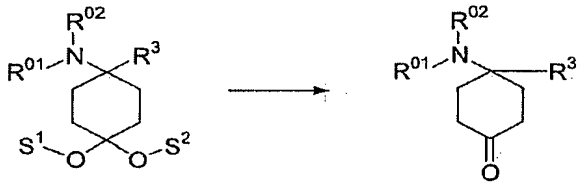


II III

b. reacting the compound corresponding to formula III with organometallic reagents corresponding to the formula metal-R^3 to form a compound corresponding to formula IVa;

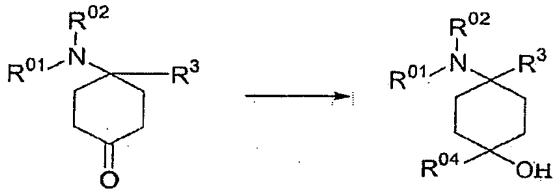
III IVa

c. removing the protective groups S^1 and S^2 on the compound corresponding to formula IVa to form a 4-substituted 4-aminocyclohexanone compound corresponding to formula IV;



IVa IV

d. reacting the 4-substituted 4-aminocyclohexanone compound corresponding to formula IV with organometallic reagents corresponding to the formula metal-R^{04} to form a compound corresponding to formula V;



IV V

wherein

R^{01} and R^{02} independently of one another represent H; H provided with a protective group; saturated or unsaturated, branched or unbranched, singly or multiply substituted or unsubstituted C_{1-8}-alkyl or C_{3-8}-cycloalkyl; singly or

multiply substituted or unsubstituted aryl or heteroaryl; or singly or multiply substituted or unsubstituted aryl bound via C_{1-3}-alkylene, C_{3-8}-cycloalkyl or heteroaryl;

or the radicals R^{01} and R^{02} together form a ring and represent $CH_2CH_2OCH_2CH_2$, $CH_2CH_2NR^{05}CH_2CH_2$ or $(CH_2)_{3-6}$,

wherein R^{05} represents H; H provided with a protective group; saturated or unsaturated, branched or unbranched, singly or multiply substituted or unsubstituted C_{1-8}-alkyl or C_{3-8}-cycloalkyl; singly or multiply substituted or unsubstituted aryl or heteroaryl; or singly or multiply substituted or unsubstituted aryl bound via C_{1-3}-alkylene, C_{3-8}-cycloalkyl or heteroaryl;

R^{04} represents H, H provided with a protective group; unsubstituted or singly or multiply substituted C_{3-8}-cycloalkyl, aryl or heteroaryl; $-CHR^{10}R^7$, $-CHR^{10}-CH_2R^7$, $-CHR^{10}-CH_2-CH_2R^7$, $-CHR^{10}-CH_2-CH_2-CH_2R^7$, $-C(Y)R^7$, $-C(Y)-CH_2R^7$, $-C(Y)-CH_2-CH_2R^7$ or $-C(Y)-CH_2-CH_2-CH_2R^7$; or $-R^8-L-R^9$

where R^{10} represents H, saturated or unsaturated, branched or unbranched, singly or multiply substituted or unsubstituted C_{1-7}-alkyl; and

S^1 and S^2 independently of one another represent protective groups or together represent a protective group.

152. (Previously Presented) The method of claim 151, wherein S^1 and S^2 together represent a monoacetal group.

153. (Previously Presented) The method of claim 151, wherein step a) further comprises:

acylating, alkylating or sulfonating the compound corresponding to formula III in any sequence and optionally repeatedly; or

where R01, R02 or R06 = H protected with a protective group, removing at least one protective group and optionally acylating, alkylating or sulfonating the compound corresponding to formula III; or

where R01 or R02 or R06 = H, introducing at least one protective group and optionally acylating, alkylating or sulfonating the compound corresponding to formula III.

154. (Previously Presented) The method of claim 151, wherein step b) further comprises:

acylating, alkylating or sulfonating the compound corresponding to formula IVa in any sequence and optionally repeatedly; or

where R^{01}, R^{02} or R^{06} = H protected with a protective group, removing at least one protective group and optionally acylating, alkylating or sulfonating the compound corresponding to formula IVa; or

where R^{01} or R^{02} or R^{06} = H, introducing at least one protective group and optionally acylating, alkylating or sulfonating the compound corresponding to formula IVa.

155. (Previously Presented) The method of claim 151, wherein step c) further comprises:

acylating, alkylating or sulfonating the compound corresponding to formula IV in any sequence and optionally repeatedly; or

where R^{01}, R^{02} or R^{06} = H protected with a protective group, removing at least one protective group and optionally acylating, alkylating or sulfonating the compound corresponding to formula IV; or

where R^{01} or R^{02} or R^{06} = H, introducing at least one protective group and optionally acylating, alkylating or sulfonating the compound corresponding to formula IV.

156. (Previously Presented) The method of claim 151, wherein step d) further comprises:

acylating, alkylating or sulfonating the compound corresponding to formula V in any sequence and optionally repeatedly; or

where R^{01}, R^{02} or R^{06} = H protected with a protective group, removing at least one protective group and optionally acylating, alkylating or sulfonating the compound corresponding to formula V; or

where R^{01} or R^{02} or R^{06} = H, introducing at least one protective group and optionally acylating, alkylating or sulfonating the compound corresponding to formula V.

157. (Previously Presented) The method of claim 151, wherein the protective groups on H in R^{01}, R^{02}, R^{04} or R^{05} are selected from the group consisting of alkyl groups, benzyl groups or carbamates.

158. (Previously Presented) The method of claim 157, wherein the protective groups on H in R^{01}, R^{02}, R^{04} or R^{05} are selected from the group consisting of fluorenylmethyl-chloroformate groups (FMOC), benzyloxycarbonyl (Z) and tert-butyloxycarbonyl (Boc).

159. (Previously Presented) The method of claim 151, wherein the cyanide of step a) is potassium cyanide.

160. (Previously Presented) The method of claim 151, wherein the organometallic reagents of step b) are Grignard or organolithium reagents.

161. (Previously Presented) The method of claim 151, wherein the organometallic reagents of step d) are Grignard or organolithium reagents.